

OBJECT-ORIENTED INSTRUCTION SET FOR
RESOURCE-CONSTRAINED DEVICES

Abstract

A resource-constrained device such as a smart card
5 or the like includes memory for storing an application
software program comprising an object-oriented, verifiable,
platform-independent, type-safe and pointer-safe sequence of
instructions. The device can also include a virtual machine
implemented on a microprocessor where the virtual machine is
10 capable of executing the sequence of instructions. Each
instruction includes an operation code, and each data
manipulation instruction is specific to a particular data
type. The application program can be stored on a computer-
readable medium prior to being received by the resource-
15 constrained device. Methods of using such an application
program, including accessing the program over the Internet
and downloading it to a smart card, also are disclosed.

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